

Chart 1A. Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones: Qualifying for Automatic Approval

1. Identify all the crossings you wish to include as part of the proposed Quiet Zone (QZ).
2. Check whether each crossing qualifies as a pre-rule crossing (horns not sounding on October 9, 1996 and December 18, 2003 because of state/local law or community agreement with the railroads). If all crossings do not qualify as pre-rule crossings, then the proposed quiet zone does not qualify as a Pre-Rule QZ, and you should refer to *Chart 2, Intermediate Quiet Zones and Intermediate Partial Quiet Zones*.
3. Determine whether you wish to eliminate any crossings from the proposed QZ. The length of a Pre-Rule QZ may continue unchanged from that which existed on October 9, 1996. If, however, you choose to eliminate a crossing, the QZ must be at least ½ mile in length along the railroad tracks.
4. A QZ may include highway-rail grade crossings on a segment of rail line crossing more than one political jurisdiction, or there may be roads within a particular area that are the responsibility of different entities (State or county roads within a town, for example). If the selected crossings are the responsibility of more than one entity, obtain the cooperation of all relevant jurisdictions.
5. Update the USDOT Grade Crossing Inventory Form to reflect conditions at each public and private crossing; this update should be complete, and accurate. For instructions on how to complete the update, see the FRA website at <http://www.fra.dot.gov/us/content/801>.
6. If each public crossing in the proposed QZ is equipped with one or more Supplementary Safety Measures (SSMs) as defined in Appendix A of the Rule, the QZ qualifies for Automatic Approval. To complete the process of creating the QZ, submit notification in accordance with rule section 222.43.

Note: Once the QZ has been created, install the required signage by June 24, 2008. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 4.5-5 years. (Refer to rule section 222.47 for details.)

7. If every public crossing is not equipped with at least one SSM, then the QZ can automatically qualify by comparing its Quiet Zone Risk Index (QZRI) with the

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Nationwide Significant Risk Threshold (NSRT). However, these QZs are subject to annual review by the FRA.

8. Using the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/>, determine whether the QZRI of the proposed QZ is less than or equal to the NSRT. If the QZRI is less than or equal to the NSRT, the QZ qualifies for Automatic Approval. Submit notification in accordance with rule section 222.43.

Note: Once the quiet zone has been created, install the required signage by June 24, 2008. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

9. If the QZRI is greater than the NSRT, use the FRA's Quiet Zone Calculator to check whether it is less than twice the NSRT. If the QZRI is more than twice the NSRT, the QZ cannot qualify for Automatic Approval. For information on how to proceed, see *Chart 1B, Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones Not Qualified for Automatic Approval*.
10. If the QZRI is greater than the NSRT, but less than twice the NSRT, determine whether any of the public crossings have experienced a "relevant collision" on or after December 18, 1998. (See rule section 222.9 for the definition of a "relevant collision.") Note that for Pre-Rule Partial Quiet Zones relevant collisions do not include collisions occurring outside the times that the horn was silenced. If there have not been any "relevant collisions" at any public crossing since April 26, 2005, the QZ qualifies for Automatic Approval. Submit notification in accordance with rule section 222.43.

Note: Once the quiet zone has been created, install the required signage by June 24, 2008. (Refer to rule sections 222.25, 222.27 and 222.35 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

11. If the QZRI is greater than the NSRT, but less than twice the NSRT, and there has been a "relevant collision" at a public crossing within the proposed QZ, the QZ cannot qualify for Automatic Approval. For information on how to proceed, see *Chart 1B, Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones Not Qualified for Automatic Approval*.

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Chart 1B. Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones Not Qualified for Automatic Approval

1. Review *Chart 1A, Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones: Qualifying for Automatic Approval*, to confirm that the proposed Pre-Rule Quiet Zone does not qualify for Automatic Approval.
2. If each crossing qualifies as a pre-rule crossing (horns not sounding on October 9, 1996 and December 18, 2003 because of state/local law or community agreement with the railroads), send notice of continuation of the quiet zone to all parties by June 3, 2005. (Refer to rule section 222.43 for details.)

Note: If you eliminated any pre-rule crossings to create the proposed Quiet Zone, the Quiet Zone must be at least ½ mile in length along the railroad tracks.

3. Send notice of the intent to file a detailed plan for establishing the quiet zone to all parties at least 4 months before filing the detailed plan with the FRA.
4. Submit to FRA a detailed plan for establishing a quiet zone before June 24, 2008. This plan should include a timetable for the implementation of safety improvements. If you intend to implement ASMs, the plan should include a completed application for FRA approval of their use. If a detailed plan is not been submitted by June 24, 2008, the quiet zone will terminate. (Refer to rule section 222.41 for details.)

Note: Since the proposed quiet zone does not qualify for Automatic Approval, any SSMs and ASMs used must be implemented in accordance with rule section 222.39.¹

Note: For guidance on ASM use, see *Chart 4A, Creating a Quiet Zone using Modified SSMs*, *Chart 4B, Creating a Quiet Zone using Engineering ASMs*, and *Chart 4C, Creating a Quiet Zone using non-engineering ASMs*.

Note: Required signage must also be installed by June 24, 2008. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)

5. Install SSMs and/or traffic control device upgrades as necessary to reduce risk within the proposed quiet zone.

¹ Although the requirements for implementation of SSMs and ASMs must be in accord with rule section 222.39, the Pre-Rule Quiet Zone requirements covering minimum length and traffic control devices remain in effect for these crossings.

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6. If every public crossing in the proposed Quiet Zone is equipped with one or more SSMs as defined in Appendix A of the Rule, you can establish the proposed Quiet Zone through public authority designation by completing the following steps:
 - a. Complete the planned improvements by June 24, 2010,²
 - b. Update the USDOT Grade Crossing Inventory Form.
 - c. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 4.5-5 years. (Refer to rule section 222.47 for details.)

7. If not every crossing will be equipped with an SSM, use the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/> to determine whether the implementation of SSMs, ASMs, and/or traffic control devices will reduce the QZRI of the proposed Pre-Rule Quiet Zone to the level of risk that would exist if the train horns were still sounded (RIWH), or to the level of the Nationwide Significant Risk Threshold (NSRT). If the QZRI will be less than or equal to the RIWH, or less than or equal to the NSRT, you can establish the Quiet Zone through public authority designation by completing the following steps:
 - a. Complete the planned improvements by June 24, 2010,²
 - b. Update the USDOT Grade Crossing Inventory Form.
 - c. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

² If the State is involved in the development of Quiet Zones, then the date for completion is extended an additional 3 years.

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Chart 2, Intermediate Quiet Zones and Intermediate Partial Quiet Zones

1. Review *Section I, Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones: Qualifying for Automatic Approval*, to confirm that the proposed Intermediate Quiet Zone does not qualify as a Pre-Rule Quiet Zone.
2. Check whether each crossing qualifies as an intermediate crossing (horns not sounding *after* October 9, 1996 and December 18, 2003 because of state/local law or community agreement with the railroads). If not all crossings qualify as intermediate crossings, then the proposed quiet zone does not qualify as an Intermediate QZ, and you should refer to *Chart 3, Creating a New Quiet Zone or New Partial Quiet Zone Using SSMs*.
3. If each crossing qualifies as an intermediate crossing, send notice of continuation of the quiet zone to all parties by June 3, 2005. (Refer to rule section 222.43 for details.)
4. In order to continue the quiet zone beyond June 24, 2006, SSMs and ASMs must be implemented in accord with the standards established for New or New Partial Quiet Zones, outlined in *Chart 3, Creating a New Quiet Zone or New Partial Quiet Zone Using SSMs*.

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Chart 3, Creating a New Quiet Zone or New Partial Quiet Zone Using SSMs

1. Select the crossings to be included in the New Quiet Zone.
2. A Quiet Zone may include highway-rail grade crossings on a segment of rail line crossing more than one political jurisdiction, or there may be roads within a particular area that are the responsibility of different entities (State or county roads within a town, for example). If the selected crossings are the responsibility of more than one entity, obtain the cooperation of all relevant jurisdictions.
3. A New Quiet Zone must be at least ½ mile in length along the railroad tracks.
4. A New Quiet Zone must have, at a minimum, flashing lights and gates in place at each public crossing. These must be equipped with constant warning time devices where reasonably practical, and power out indicators. Any necessary upgrades must be completed before calculating risk for the quiet zone.
5. Are there any private or pedestrian crossings within the proposed Quiet Zone? If any private crossings allow access to the public or provide access to active industrial or commercial sites, or if there are any pedestrian crossings, you must conduct a diagnostic team review of those crossings. Following the diagnostic review, you must comply with the diagnostic team's recommendations concerning those crossings.
6. Update the USDOT Grade Crossing Inventory Form to reflect conditions at each public and private crossing; this update should be complete, and accurate³. For instructions on how to complete the update, see the FRA website at <http://www.fra.dot.gov/us/content/801>.
7. Submit notification of your intent to create a New or New Partial Quiet Zone in accordance with the rule. (Refer to rule section 222.43 for details.)
8. Using the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/>, determine whether the Quiet Zone Risk Index (QZRI) of the proposed Quiet Zone is less than or equal to the Nationwide Significant Risk Threshold (NSRT). If the QZRI is less than or equal to the

³ For New Quiet Zones, the baseline conditions for calculating risk require that the minimum required traffic control devices are in place. This first Inventory update, therefore, must be completed after the gates, lights, and signs are in place, but before the SSMs and other measures are implemented.

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NSRT, you can establish the Quiet Zone through public authority designation by completing the following steps:

- a. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)
- b. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

9. The step described above involves qualifying a quiet zone without implementing any Supplementary Safety Measures (SSMs) or Alternative Safety Measures (ASMs). If FRA's Quiet Zone Calculator indicates that the proposed quiet zone will not qualify on that basis, install any measures that are needed. To qualify for Public Authority Designation, you must implement SSMs, build grade separations, close crossings, or install wayside horns.

Note: If you would like to implement any ASMs, their use must be approved in advance by FRA, in accordance with Appendix B of the rule. For guidance on ASM use, see *Chart 4B, Creating a Quiet Zone using Modified SSMs*, *Chart 4C, Creating a Quiet Zone using Engineering ASMs*, or *Chart 4C, Creating a Quiet Zone using Non-engineering ASMs*.

10. If every public crossing in the proposed Quiet Zone is equipped with one or more SSMs, you can establish the Quiet Zone through public authority designation by completing the following steps:

- a. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)
- b. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
- c. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

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Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 4.5-5 years. (Refer to rule section 222.47 for details.)

10. If not every public crossing is equipped with an SSM, use FRA's Quiet Zone Calculator to determine whether enough SSMs have been implemented to reduce the QZRI to the level of risk that would exist if the train horns were still sounded (RIWH), or to or below the Nationwide Significant Risk Threshold (NSRT). The Quiet Zone Calculator can be found at <http://safetydata.fra.dot.gov/quiet/>. If the QZRI is less than or equal to the RIWH, or less than or equal to the NSRT, you can establish the Quiet Zone through public authority designation by completing the following steps:

- a. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)
- b. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
- c. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

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Chart 4A, Creating a Quiet Zone using Modified SSMs

This section describes what to do in the event that there are circumstances unique to a crossing in the proposed quiet zone that necessitate modifying an SSM. Note that quiet zones established under this provision must be approved by the FRA.

1. Determine whether the crossings to be treated will all be treated with either an SSM that conforms to the requirements set forth in Appendix A of the rule, or a modified version of an SSM (an engineering ASM). If any crossing is to be treated with any other sort of engineering ASM in accordance with Appendix B, see *Chart 4B, Creating a Quiet Zone using Engineering ASMs*. If any crossing is to be treated with a non-engineering ASM listed in Appendix B of the rule, see *Chart 4C, Creating a Quiet Zone using Non-engineering ASMs*.
2. Estimate the effectiveness of the modified SSM, either by collecting data from the field, or by establishing an adjustment to the SSM effectiveness rates provided in Appendix A of the rule. Staff at the FRA are available to assist in the development of appropriate estimates, and it is strongly recommended that you consult with them.
3. Using the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/>, determine the initial Risk Indices of each crossing in the proposed Quiet Zone, as well as the entire Quiet Zone's level of risk that would be present if the horns continued to sound (RIWH). The Quiet Zone Calculator is not equipped to allow the use of modified effectiveness rates, so take the initial values from the calculator, and apply the modified effectiveness rates by hand to determine the Quiet Zone Risk Index (QZRI). If the QZRI is less than or equal to the RIWH, or if the QZRI is less than or equal to the NSRT, you can submit an application to the FRA and the other parties listed in the rule for approval.
4. If the FRA has approved the Quiet Zone application, you can establish the Quiet Zone by completing the necessary steps:
 - a. Install all SSMs or modified SSMs at the Quiet Zone's crossings,
 - b. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)
 - c. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
 - d. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

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Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

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Chart 4B, Creating a Quiet Zone using Engineering ASMs

The following section describes the steps involved in creating a Quiet Zone through the implementation of Alternative Safety Measures that are not modified SSMs. For details, see Appendix B of the rule.

1. Prior to implementing any ASM, conduct a field study for at least one quarter to obtain the baseline violation rate. For details, see Appendix B of the rule.
2. Initiate implementation of the ASM.
3. In the first quarter following implementation, use the same methodology you employed in step 2 to determine a post-implementation violation rate.
4. Calculate the violation rate change and corresponding effectiveness rate for the ASM using the formulae in Appendix B.
5. If you plan to implement any SSMs or wayside horns in addition to the proposed ASMs, install any such measures that are needed.
6. Using the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/>, determine the initial Risk Indices of each crossing in the proposed Quiet Zone, as well as the entire Quiet Zone's level of risk that would be present if the horns continued to sound (RIWH). The Quiet Zone Calculator is not equipped to allow the use of modified effectiveness rates, so take the initial values from the calculator, and apply the modified effectiveness rates by hand to determine the Quiet Zone Risk Index (QZRI). If the QZRI is less than or equal to the RIWH, or if the QZRI is at or below the NSRT, you can submit an application to the FRA and other parties listed in the rule for approval.
5. If the FRA has approved the Quiet Zone application, you can establish the Quiet Zone by completing the necessary steps:
 - a. Install all SSMs or modified SSMs at the Quiet Zone's crossings,
 - b. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)
 - c. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
 - d. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

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Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

Note: Quiet Zones where the QZRI does not fall below either the RIWH or the NSRT, or those that for other reasons do not obtain FRA approval, do not qualify. Under these circumstances, the train horns will not be silenced.

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Chart 4C, Creating a Quiet Zone using Non-engineering ASMs

The following section describes the steps involved in creating a Quiet Zone through the implementation of Alternative Safety Measures that are not modified SSMs. For details, see Appendix B of the rule.

1. Develop a detailed plan for implementing and monitoring the status of the proposed ASM program. FRA Staff are available to assist in developing appropriate plans, and you are strongly advised to consult with them.
7. Prior to implementing any ASM program, conduct a field study for at least one quarter to obtain the baseline violation rate. For details, see Appendix B of the rule.
8. Initiate implementation of the ASM program.
9. In the first quarter following implementation, use the same methodology you employed in step 2 to determine a post-implementation violation rate.
10. Calculate the violation rate change and corresponding effectiveness rate for the ASM using the formulae in Appendix B.
11. If you plan to implement any SSMs or wayside horns in addition to the proposed ASMs, install any such measures that are needed.
12. Using the FRA's Quiet Zone Calculator, a web-based tool that can be found at <http://safetydata.fra.dot.gov/quiet/>, determine the initial Risk Indices of each crossing in the proposed Quiet Zone, as well as the entire Quiet Zone's level of risk that would be present if the horns continued to sound (RIWH). The Quiet Zone Calculator is not equipped to allow the use of modified effectiveness rates, so take the initial values from the calculator, and apply the modified effectiveness rates by hand to determine the Quiet Zone Risk Index (QZRI). If the QZRI is less than or equal to the RIWH, or if the QZRI is at or below the NSRT, you can submit an application to the FRA and other parties listed in the rule for approval.
6. If the FRA has approved the Quiet Zone application, you can establish the Quiet Zone by completing the necessary steps:
 - a. Install all SSMs or modified SSMs at the Quiet Zone's crossings,
 - b. Install required signage at each crossing. (Refer to rule sections 222.25, 222.27, and 222.35 for details.)

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- c. Update the National Grade Crossing Inventory to reflect current conditions at each public and private crossing within the Quiet Zone.
- d. Submit notification in accordance with the rule. (Refer to rule section 222.43 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

Note: Quiet Zones established by comparison to the NSRT are subject to annual FRA review. (Refer to rule section 222.51 for details.)

Note: Periodic updates, including updated USDOT Grade Crossing Inventory Forms, must be submitted to FRA every 2.5-3 years. (Refer to rule section 222.47 for details.)

Note: Quiet Zones where the QZRI does not fall below either the RIWH or the NSRT, or those that for other reasons do not obtain FRA approval, do not qualify. Under these circumstances, the train horns will not be silenced.

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